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Reference Schema MAG 2.01

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This document

This document represents the *Reference* for the MAG metadata standard and a short version of the *MAG Users Handbook*.

For each element of the schema some synthetic informations on semantics, usage, accepted values will be provided.

Any mismatch between what contained in this *Reference* document and the MAG schema must be solved giving priority to what provided by the schema. Any mismatch between what contained in this *Reference* document and the *MAG Users Handbook* must be solved giving priority to what provided by the *Handbook*.

Items highlighted in red indicate changes made to MAG application profile for version 2.01.

Why MAG

Short answers to three FAQ (where more detailed answers may be found in the *MAG User Handbook*):

1. What MAG is for?

Its main goal is to give formal specifications for the submission and the transfer of metadata and digital objects in their repositories (SIP phase of OAIS model).

2. Why MAG and not METS?

MAG was conceived to collect management metadata about the digital objects produced in a digitalization project (TIFF, MP3 ecc). METS is for sure a powerful "packaging schema" but has no direct solutions to the requirements – specific and limitated – on which MAG is based. MAG intends to promote the collection of a " least common" set for management metadata. In particular, if we take a look to the technical metadata about digitalization of images – `<img>` section of MAG – the international work is still in progress (see the MIX project of Library of Congress http://www.loc.gov/standards/mix/). As regards the audio and video digitalization there are still few referential experiences. Anyway we suggest to consider the implementations registry of METS http://sunsite.berkeley.edu/mets/registry/ where for instance someone used – correctly - MAG as an "extension" of METS.

3. MAG is an international standard?

MAG is an *Application profile* totally compliant to international standards. MAG allows the use of metadata maintained and defined in other schemas (Dublin Core and NISO) in association with specific metadata defined for a particular application (just where we couldn't find a strengthened correspondence with existing schemas).

What has changed from previous versions

This version replaces version 2.0, which was finalized in February 2005. The new version of MAG makes the following changes.

In comparison to version 1.5.1 this are the main changes:

- Added the `dis` section for the DIP phase of OAIS
- Added the `audio` section
- Added the `video` section

- Added an uniqueness bond for the `num` attribute of element `element`
- The `shelfmark` element is now repeatable and has the `type` attribute
- Added the elements `stpiece_per` and `stpiece_vol` to identify in a standard and unique form the journals index or the parts of a book divided in more than one volume.
- Added the element `local_bib` with contents `(geog_name*,not_date*)` reserved to specific bibliographic informations collected during the digitalization project.
- Added the compression types and the MIME types scpecialized for the sections `ocr` e `doc`.
- Added the `djvu` format (both for the compression and the MIME types) in the section `img`.
- The predefined values for element `usage` were changed in suggested values.
- As regards the field `<dc:identifier>`, starting from the validation problems of attribute `xsi:type` occured with the previous versions it's now suggested the adoption of “info URI” for the identifiers usually adopted in the bibliographic world (001 MARC, bid SBN, number of BNI etc.).

In comparison to version 2.0 this is the main change of version 2.01:

- In section `bib`, for archival records the `level` value could be chosen between those two values:
- `f`: file
- `d`: document, item.

Values typologies for elements

Syntax

name	Name of element or sub-element
description	description of content
path	Paths of elements inside whom elements could be used
type	Assumes the namespace reference form: data type – see the first column of the two following tables

required	M (Mandatory), O (Optional), MA (Mandatory if possible/accepted)
repeatable	Yes/No
attributes	eventual attributes of tag, with the indication of the type and if required or not
values	applicable just to simple types – list of possible values or examples
components	applicable just to `<xsd:sequence>` or to `<xsd:choice>` - list of sub-elements
notes	eventual notes for usage or still open problems

Simple types

xsd:string	characters string
xsd:positiveInteger	positive integers
xsd:double	real number in double-precision
xsd:datetime	date and time in the format YYYY-MM-DDThh:mm:ss.mmm-hh:00 (four-digit year-two digits month-two digits dayT-two digits of hour-two digits of minute-two digits of second.three digits for decimal fraction of a second-/+universal time; difference with Coordinated Universal Tim can be omitted); see http://www.w3.org/TR/NOTE-datetime.
xsd:time	time in the format hh:mm:ss.mmm-hh:00 (two digits of hour-two digits of minute-two digits of second.three digits for decimal fraction of a second-/+universal time; difference with Coordinated Universal Tim can be omitted).
xsd:anyURI	Uniform Resource Identifier of a network resource
xsd:restriction	Restriction of a simple type
xsd:enumeration	List of possible values
xsd:ID	The attribute of this type must have a value with an unique identifier
xsd:IDRef	The attribute of this type must have as a value the reference to a xsd:ID declared somewhere in the document
xsd:float	Represents a single-precision binary floating-point number
dc:elementType	element Dublin Core as defined in

	http://dublincore.org/schemas/xmls/simpledc20020312.xsd

Complex types

xsd:sequence	ordered sequence of sub-elements
xsd:choice	alternative between different sub-elements

The root *metadigit* element

name	`<metadigit>`
description	Root element of any MAG record
path	`/`
type	`xsd:sequence`
required	M
repeatable	No
attributes	`version` (`xsd:string`, default value `2.01`)
values	
components	<gen> , <bib> , <stru> (optional), <img> (optional), <audio> (optional), <video> (optional), <ocr> (optional), <doc> (optional), <dis> (optional)
notes	

Section GEN

This section collects general informations about the project and on the digitalization process

name	`<gen>`
description	general informations about the project and on the type of digitalization adopted
path	`metadigit`
type	`xsd:sequence`
required	M
repeatable	No
attributes	`creation` (`xsd:datetime`, optional), `last_update` (`xsd:datetime`, optional)
values	
components	<stprog> , <collection> , <agency> , <access_rights> , <completeness> , <img_group> (optional), <audio_group> (optional), <video_group> (optional)
notes	

name	`<stprog>`
description	a network resource describing the standards adopted in the digitalization project
path	`metadigit/gen`
type	`xsd:anyURI`
required	M
repeatable	No

attributes	
values	Example: http://www.bncf.firenze.sbn.it/progetti/arsbni/index.html
components	
notes	

name	`<collection>`
description	the collection that contains the digital resource
path	`metadigit/gen`
type	`xsd:anyURI`
required	O
repeatable	No
attributes	
values	
components	
notes	

name	`<agency>`
description	the agency responsible for the digitalization process
path	`metadigit/gen`
type	`xsd:string`
required	M
repeatable	No
attributes	
values	Examples:

	IT:BNCF IT:VE0049 IT-ASPA
components	
notes	The UNIMARC syntax for field 801 (ORIGINATING SOURCE) is recommended, i.e. country of the issuing agency in two-character coded form:full name of the agency or national coding rules may be used, for example that of the Italian Libraries Registry: http://anagrafe.iccu.sbn.it/

name	<access_rights>
description	Access conditions to the original analogical object
path	metadigit/gen
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	0 (use reserved to agency staff) 1 (public domain)
components	
notes	For the access conditions to the digital object see <usage>

name	<completeness>
description	level of digitalization completeness
path	metadigit/gen
type	xsd:enumeration
required	M
repeatable	No

attributes	
values	`0` (complete digitalization) `1` (partial digitalization)
components	
notes	

name	`<img_group>`
description	Common characteristics to homogeneous groups of images
path	`metadigit/gen`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	`ID` (`xsd:ID`, mandatory)
values	
components	<image_metrics> , <ppi> (optional), <dpi> (optional), <format> , <scanning> (optional).
notes	To be used when many images (a group) share the same technical characteristics; where several groups of images share the same technical characteristics the element can be repeated. The attribute `ID` is an unique identifier so it could create validation problems where many MAG records would be assembled. For the components see the section `img`. The element <dpi> is provided just to grant the full complaince but it's not recommended; much better is to use <ppi>

name	`<audio_group>`
description	Common characteristics to homogeneous groups of audio files
path	`metadigit/gen`

type	`xsd_sequence`
required	O
repeatable	yes
attributes	`ID` (`xsd:ID`)
values	
components	<audio_metrics> <format> <transcription> (optional)
notes	To be used when many audio files (a group) share the same technical characteristics; where several groups of audio files share the same technical characteristics the element can me repeated. The attribute `ID` is an unique identifier so it could create validation problems where many MAG records would be assembled. For the components see the section `audio`

name	`<video_group>`
description	Common characteristics to homogeneous groups of video files
path	`metadigit/gen`
type	`xsd:sequence`
required	O
repeatable	No
attributes	`ID` (`xsd:ID`)
values	
components	<video_metrics> <format> <digitisation> (optional)
notes	To be used when many video files (a group) share the same technical characteristics; where several groups of video files share the same technical characteristics the element can me repeated. The attribute `ID` is an unique identifier so it could create validation problems where many MAG records would be assembled. For the components see the section `video`.

Section BIB

This section collects descriptive metadata about the analogical object digitalized or anyway about the source object.

name	<bib>
description	descriptive metadata about the analogical object
path	metadigit
type	xsd:sequence
required	M
repeatable	No
attributes	level = a component part m monograph s serial c collection produced by the agency f archival file d archival document/item
values	
components	All the Dublin Core tags, <holdings>, <piece>
notes	

name	<dc:identifier>
description	Unique identifier of the analogical resource in a determined context
path	metadigit/bib
type	dc:elementType
required	M
repeatable	yes

attributes	
values	Examples: <dc:identifier>SBL0285585</dc:identifier> <dc:identifier> info:sbn/CFI0342793 </dc:identifier> <dc:identifier>info :bni/2004-778 </dc:identifier> <dc:identifier>IT-ASMS-F160349-034</dc:identifier>
components	
notes	See http://dublincore.org/documents/dces#identifier e http://www.iccu.sbn.it/dublinco.html. The attribute xsi:type present in previous versions of MAG created validation problems. In this version if it's necessary to add more than one <dc:identifier> we suggest the adoption of a standardized identifier to be put in the element content, that is the URI info schema in order to reference with a URI the assets that - although known with a public identifier - can't be unreferenced starting from the same URI (i.e., that can't be presented in the form http://CFI0342793). In order to use this system it's necessary the pre-registration of a namespace on the http://info-uri.info/ web site. More informations on the URI info schema could be found in http://info-uri.info/registry/docs/misc/faq.html or http://www.loc.gov/standards/uri/info.html#openurl. For archival records, the structure of dc:identifier should be based on the ISAD(G) standard 3.1.1 element rules, using this syntax: "ISO 3166-1-alpha-2 country code – Institution with archival holdings code – unique identifier of the archival fonds – identifier of the unit of description (see also ISDIAH standard, 5.1.1 element).

name	<dc:title>
description	Name given to the analogical resource
path	metadigit/bib
type	dc:elementType
required	O
repeatable	yes
attributes	xml:lang (xsd:string, optional) to indicate the language used in the title
values	Example: <dc:title>L'architettura rinascimentale</dc:title>
components	

notes	see http://dublincore.org/documents/dces#title and http://www.iccu.sbn.it/dublinco.html

name	`<dc:creator>`
description	An entity primarily responsible for making the content of analogical resource
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	`xml:lang` (`xsd:string`, optional)
values	Examples: `<dc:creator xml:lang="en">`Lowry Bates`</dc:creator>`. Examples of `<dc:creator>` may include a person, a corporate body or a service. In particular, the name of a `<dc:creator>` should be used to identify an unit.
components	
notes	see http://dublincore.org/documents/dces#creator and http://www.iccu.sbn.it/dublinco.html

name	`<dc:publisher>`
description	An entity responsible for making the analogical resource available in its present form
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	`xml:lang` (`xsd:string`, optional)
values	Examples `<dc:publisher>`Milano: Rizzoli,

	1965</dc:publisher>
components	
notes	see http://dublincore.org/documents/dces#publisher and http://www.iccu.sbn.it/dublinco.html

name	<dc:subject>
description	The topic of the analogical resource
path	metadigit/bib
type	dc:elementType
required	O
repeatable	yes
attributes	xml:lang (xsd:string, optional)
values	In particular <dc:subject> could be expressed using keywords or key-phrases or classification codes describing the resource subject. We suggest to choose the values from a controlled vocabulary or form a formal classification schema.
components	
notes	see http://dublincore.org/documents/dces#subject and http://www.iccu.sbn.it/dublinco.html

name	<dc:description>
description	An account of the analogical resource content
path	metadigit/bib
type	dc:elementType
required	O
repeatable	yes
attributes	xml:lang (xsd:string, optional)

values	This description could include (but it's not limited just to): an abstract, a table of contents, a graphical representation or a free-text account of the resource
components	
notes	see http://dublincore.org/documents/dces#description e http://www.iccu.sbn.it/dublinco.html

name	`<dc:contributor>`
description	An entity responsible for making contributions to the analogical resource.
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	`xml:lang` (`xsd:string`, optional)
values	
components	
notes	see http://dublincore.org/documents/dces#contributor and http://www.iccu.sbn.it/dublinco.html

name	`<dc:date>`
description	A point or period of time associated with an event in the lifecycle of the analogical resource.
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	

values	Usually `<dc:date>` is associated to the creation or to the availability of the resource. We suggest to use a 8-digits number in the form YYYY-MM-DD (Year-Month-Day) as defined in http://www.w3.org/TR/NOTE-datetime, a profile of ISO 8601 standard. In this schema the element data 1994-11-05 corresponds to 1994, November 5th. Many other schemas are possible, but where adopted they must be uniquely identified.
components	
notes	see http://dublincore.org/documents/dces#date and http://www.iccu.sbn.it/dublinco.html

name	`<dc:type>`
description	The nature or genre of the content of analogical resource
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	
values	We suggest the adoption of UNIMARC coding guide
components	
notes	see http://dublincore.org/documents/dces#type and http://www.iccu.sbn.it/dublinco.html. The suggested values are taken from the Dublin Core Type Vocabulary

name	`<dc:format>`
description	The physical manifestation of the analogical resource
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes

attributes	
values	Usually `<dc:format>` may include the physical medium or dimensions of the resource
components	
notes	see http://dublincore.org/documents/dces#format and http://www.iccu.sbn.it/dublinco.html

name	`<dc:source>`
description	A related resource from which the described analogical resource is derived
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	
values	Element rarely used in digital scanning projects, provided here just for granting the schema completeness
components	
notes	see http://dublincore.org/documents/dces#source and http://www.iccu.sbn.it/dublinco.html

name	`<dc:language>`
description	The content language of the analogical resource.
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes

attributes	
values	For the values of `Language` element we recommend to use a controlled vocabulary such as RFC 1766 with a two-characters language code (derived from the ISO 639 standard), in case followed by a two-characters country code (derived from the ISO 3166 standard). Examples: "en" for English, "fr" for French, "it" for Italian or "en-uk" for United Kingdom English
components	
notes	see http://dublincore.org/documents/dces#language and http://www.iccu.sbn.it/dublinco.html

name	`<dc:relation>`
description	A reference to the related analogical resource
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	
values	We recommend to to identify the related resource by means of a string compliant with a formal identification system.
components	
notes	see http://dublincore.org/documents/dces#relation and http://www.iccu.sbn.it/dublinco.html

name	`<dc:coverage>`
Description	The spatial or temporal topic of the analogical resource
path	`metadigit/bib`
type	`dc:elementType`
required	O

repeatable	yes
attributes	
values	Usually Coverage includes the spatial applicability of the resource (a name of a place or its geographical coordinates), the temporal period (the indication of a period, a date or a date range) or the jurisdiction under which the resource is relevant (for example the name of a administrative body). We recommend the adoption of a controlled vocabulary (such as the Thesaurus of Geographic Names [TGN]) and, where possible, to use the place names or the periods rather than identifiers such as series of coordinates or dates range.
components	
notes	see http://dublincore.org/documents/dces#coverage and http://www.iccu.sbn.it/dublinco.html

name	`<dc:rights>`
description	Information about rights held in and over the analogical resource
path	`metadigit/bib`
type	`dc:elementType`
required	O
repeatable	yes
attributes	
values	Usually the `<dc:rights>` element contains the indication of rights management on the resource, or the reference to a service that provides such informations. The information about rights often includes a statement of Intellectual Property Rights (IPR), copyright and other various property rights. Where `<dc:rights>` element is missing, it will be impossible to deduce the statement of any right related to the resource.
components	
notes	see http://dublincore.org/documents/dces#rights and http://www.iccu.sbn.it/dublinco.html

name	`<holdings>`

description	Inventory and location of the digitized analogical resource
path	`metadigit/bib`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	`ID` (`xsd:string`, optional)
values	
components	<library> , <inventory_number> , <shelfmark>
notes	

name	`<library>`
description	Agency that holds the digitized analogical resource
path	`metadigit/bib/holdings`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: Bibl. Nazionale Centrale di Firenze, Archivio Centrale dello Stato, Library of Congress
components	
notes	

name	`<inventory_number>`

description	Inventory number of the digitized analogical resource
path	`metadigit/bib/holdings`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Example: CF005360457
components	
notes	

name	`<shelfmark>`
description	Physical collocation of analogical entity
path	`metadigit/bib/holdings`
type	`xsd:string`
required	O
repeatable	yes
attributes	`type` (`xsd:string`, optional)
values	Example: GEN.A05.5826
components	
notes	The `type` attribute is used to record a typology in case of several collocations.

name	`<local_bib>`
description	Specialized catalogue systems used by single libraries

path	metadigit/bib
type	xsd:sequence
required	O
repeatable	No
attributes	
values	
components	<geo_coord> (optional), <not_date> (optional)
notes	

name	<geo_coord>
description	Geographical coordinates referred to a map
path	metadigit/bib/local_bib
type	xsd:string
required	O
repeatable	yes
attributes	
values	
components	
notes	To be considered as a specialized use of <dc:coverage>

name	<not_date>
description	Notification date of a proclamation or an edict
path	metadigit/bib/local_bib
type	xsd:string

required	O
repeatable	yes
attributes	
values	
components	
notes	To be considered as a specialized use of `<dc:date>`

name	`<piece>`
description	Physical entity part of a higher-level entity (examples: issue of a serial, part of a bibliographic unit)
path	`metadigit/bib`
type	`xsd:choice`
required	MA
repeatable	No
attributes	
values	
components	(<year> , <issue> , <stpiece_per>) / (<part_number> , <part_name> , <stpiece_vol>)
notes	sub-section missing in case of digitalization of a bibliographic unit, such as a monograph; mandatory in case of serials

name	`<year>`
description	Year of coverage of a serial publication
path	`metadigit/bib/piece`
type	`xsd:string`

required	M
repeatable	No
attributes	
values	Example: 1913-1914
components	
notes	mandatory element in case of serials

name	`<issue>`
description	Identification informations of a serial publication single issue.
path	`metadigit/bib/piece`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Example: Nº 8
components	
notes	mandatory element in case of serials

name	`<stpiece_per>`
description	Normalized form for the reference to a serial publication single issue
path	`metadigit/bib/piece`
type	`xsd:string` con restriction pattern `\((\d{4}(/\d{4})?((\d{2})(/\d{2})?((\d{2})(/\d{2})?)?)?)?\)(\d{1,4}(:(\d{1,4}))?)?`
required	O

repeatable	No
attributes	
values	This field allows the recording in a normalized form the reference to a serial publication single issue, both to allow the data interchange and to automatically put the records in order. The `<stpiece_per>` field is optional and must not substitute the informations contained in the other sub-section `<piece>` fields. The authorized syntax for this normalization must be the Serial Item and Contribution Identifier (SICI) standard (ANSI/NISO Z39.56) for chronology, enumeration, supplements and indexes segments http://www.niso.org/standards/standard_detail.cfm?std_id=530. Sinthetically the result will be: `(chronology)level_numbering:level_numbering`. The rules for the creation are described in the 6.3.2, 6.3.3 e 6.3.4 points of SICI and are recalled here: *1. Chronology* All the dates are recorded numerically enclosed in parenthesis in the format `YYYYMMDD (YYYY = year, MM = month, DD = day`. Just the applicable levels should be used. For example, if the date to be recorded is missing month, day, or season, just the year must be recorded. See the codes: *Chronology codes* `01` = January `02` = February `03` = March `04` = April `05` = May `06` = June `07` = July `08` = August `09` = September `10` = October `11` = November `12` = December `21` = spring `22` = summer `23` = Autumn `24` = winter `31` = first fourth `32` = second fourth `33` = third fourth `34` = fourth fourth; Examples: La Repubblica 2005 January 23rd -> `(20050123)` Airone 2003 February -> `(200302)` Renaissance Quarterly, 2° fourth 2004 -> `(200432)` *2. Combined chronology* The slash "/" must be used to combine dates or parts of a date; Examples: `(199312/199401)20:2` for December 93 / January 94 issue 20, n. 2 `(119021/22)17:3/4` for Spring-Summer 1990 issue 17 number 3/4. If the chronology is missing the "()" punctuation is anyway mandatory.

	3. Numbering. The numbering identify the issue. There could be different levels (maximum 4) separated by the punctuation ":" It may be omitted – without the omission recording – if the issue is missing this kind of informations. Examples: La Repubblica 2005 January 23rd, year 24, n. 23 -> `(20050123)24:23` Airone 2003 February, year 18 n. 2 -> `(200302)18:2` Renaissance Quarterly, 2° fourth 2004, year 36 part 2 -> `(200432)36:2`. *4. Combined numbering and continuous numbering.* For the numbering the slash "/" may be used to express a combined numbering. Example: `(119021/22)17:3/4` for Spring-Summer 1990 issue 17 number 3/4. If two kind of numbering are present the regular `(volume:numero)` must be preferred and the continuous numbering of issues must not be considered. Examples: Vol 21, n. 13 (fasc 389) 1995 June 23rd is codified in `(11950623)21:13` and the indication "fasc 389" is not considered. If a serial has just a progressive numbering of issues with no chronological indication and no issue indication the result would be, for example, `()454` to code the issue number 454.
components	
notes	syntax `(cronologia)level_numerazione:level_numerazione`

name	`<part_number>`
description	Number of a component unit
path	`metadigit/bib/piece`
type	`xsd:positiveInteger`
required	M
repeatable	No
attributes	
values	Examples II, 18
components	

notes	mandatory element in case of a component unit.

name	`<part_name>`
description	Name/title of a component unit
path	`metadigit/bib/piece`
type	`xsd:string`
required	M
repeatable	No
attributes	
values	Example: Issue I
components	
notes	mandatory element in case of a component unit

name	`<stpiece_vol>`
description	Normalized form for the reference to a part of a component unit
path	`metadigit/bib/piece`
type	`xsd:string` con restriction pattern `\d{1,3}\:\d{1,4}(\:\d{1,4})*`
required	M
repeatable	No
attributes	
values	Example: Volume 3, parte 2, tomo 1 -> 3:2:1
components	
notes	syntax: `volume:part:part`, where `volume` may have a maximum of 3 digits, `part` a maximum of 4

Section STRU

This section enables the management of the logic structure of the digitized object/s using *ad hoc* structural metadata.

name	`<stru>`
description	Metadata describing the logic structure of the digitized object. It enables to point to other MAG documents using `<dc:identifier>`, `<piece>` and `<resource>`. Repeatable and recursive. Each occurrence is uniquely identified by `<sequence_number>` and described by `<nomenclature>`. `<element>` (using the type `stru_element`) allows to individuate the multimedia object to be inherited.
path	`metadigit` `metadigit/stru` `metadigit/stru/*/stru`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	`descr` (`xsd:string`, optional) `start` (`xsd:positiveInteger`, optional) `stop` (`xsd:positiveInteger`, optional)
values	
components	<stru>, <sequence_number>, <nomenclature>, <element>
notes	The attributes are maintained to grant full compatibility with the previous versions of MAG schema, but they are all optional and their use is deprecated, preferring the components of `<stru>`.

name	`<sequence_number>`
description	Progressive number identifing a `<stru>`.
path	`metadigit/stru` `metadigit/stru/*/stru`

type	xsd:positiveInteger
required	O
repeatable	No
attributes	
values	
components	
notes	In this section an uniqueness constrain is imposed.

name	<nomenclature>
description	Description of a structure element
path	metadigit/stru metadigit/stru/*/stru
type	xsd:string
required	O
repeatable	No
attributes	
values	Examples of a structure: "Le Quattro Stagioni" (component part of "Il Cimento dell'armonia e dell'invenzione" op. 8); "Chapter one"
components	
notes	The terminology to be adopted must be defined in the single project standards.

name	<element>
description	It allows to assign to the <stru> multimedia content. Repeatable, each occurrence enables to identify the catalogued object which contains the multimedia content (<dc_identifier>), select the resource type (<resource>) and define the attribution range

	(<start>, <stop>).
path	metadigit/stru metadigit/stru/*/stru
type	xsd:sequence
required	O
repeatable	yes
attributes	descr (xsd:string, optional) num (xsd:positiveInteger, optional)
values	
components	<nomenclature> , <file>, <dc:identifier> , <piece>, <resource> , <start> , <stop>
notes	The desc attribute is maintained to grant full compatibility with the previous versions of MAG schema, but is optional and its use is deprecated, preferring the components of <stru>. The num attribute must be used when a text is divided in several physical or logical units, even if discontinuous, providing that <resource> is the same; in this case <resource> must be omitted. The element <element> enables the definition of series of attributions both contiguous (interval) or scattered (enumeration).

name	<nomenclature>
description	description of the element
path	metadigit/stru/element metadigit/stru/*/stru/element
type	xsd:string
required	O
repeatable	No
attributes	

values	
components	
notes	The terminology to be adopted must be defined in the single project standards; it must be omitted where coincident with `//stru/nomenclature`

name	`<file>`
description	link to the multimedia file
path	`metadigit/stru/element` `metadigit/stru/*/stru/element`
type	`link`
required	MA
repeatable	No
attributes	`Location` (possible values for images: `URN`, `URL`, `PURL`, `HANDLE`, `DOI`, `OTHER`) `xlink:simpleLink` (values: `type`, `href`, `role`, `arcrole`, `title`, `show`, `actuate`) `xlink:type` mandatory, fixed value "`simple`" `xlink:href` optional, identifies a remote resource and must be a URI `xlink:role` optional, describes the role of the remote resource inside the link, must be a URI `xlink:arcrole` optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI `xlink:title` optional, describes the title or the topic of resource `xlink:show` optional, describes how the resource should be shown `xlink:actuate` optional, gives informations about when to show the resource
values	Example: ./1340972P/IMG/A0000034.JPG
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	`<dc:identifier>`
description	It enables to create a reference to an object described in another MAG record

path	metadigit/stru/element metadigit/stru/*/stru/element
type	dc:elementType
required	MA
repeatable	No
attributes	xsi:type (xsd:string, optional)
values	
components	
notes	Where omitted, the reference is to the XML containing the <stru>.

name	<resource>
description	It enables to select the section where to catch from the multimedia file
path	metadigit/stru/element metadigit/stru/*/stru/element
type	xsd:enumeration
required	O
repeatable	No
attributes	
values	img, audio, video, ocr, doc
components	
notes	If omitted, the default section is img .

name	<start>
description	It enables to locate the starting point of the attribution interval of

	multimedia files to be captured inside the document identified by `<dc:identifier>` and localized by `<file>`. The attribute `sequence_number` locates a single multimedia object inside the section defined by `<resource>`. The attribute `offset`, if present, gives a temporal mark-up inside a stream (just for audio and video).
path	`metadigit/stru/element` `metadigit/stru/*/stru/element`
type	
required	O
repeatable	No
attributes	`sequence_number` (`xsd:positiveInteger`, mandatory) `offset` (`xsd:time`, optional)
values	
components	
notes	

Section img

This section collects the metadata relating to still images

name	`<img>`
description	It collects the metadata relating to an image with all its eventual versions
path	`metadigit`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	`imggroupID` (`xsd:IDREF`, optional; it refers to the attribute `ID` gen/image_group), `holdingsID` (`xsd:IDREF`, optional; it refers to the attribute `ID` of bib/holdings)
values	
components	<sequence_number> , <nomenclature> , <usage> (optional), <side> (optional), <scale> (optional), <file> , <md5> , <filesize> (optional), <image_dimensions> , <image_metrics> (optional), <ppi> (optional), <dpi> (not preferred, optional), <format> (optional), <scanning> (optional), <datetimecreated> (optional), <target> (optional), <altimg> (optional), <notes> (optional)
notes	If the attribute `imggroupID` is not filled out and the technical informations of image were not recorded, it must be present `<image_metrics>`

name	`<sequence_number>`

description	Progressive number identifying a multimedia file inside the XML document.
path	`metadigit/img`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	
values	
components	
notes	in this section an uniqueness constrain is imposed

name	`<nomenclature>`
description	description of a digital image
path	`metadigit/img`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: "Pagina 1", "Frontespizio", “c. 1 recto”
components	
notes	The terminology to be adopted is defined in the project standards

name	`<usage>`

description	suggested usage for the digital image
path	`metadigit/img`
type	`xsd:string`
required	O
repeatable	yes
attributes	
values	Examples: `1`: master `2`: high resolution `3`: low resolution `4`: preview `a`: the repository detains no copyright of digital object `b`: the repository detains the copyright of digital object
components	
notes	The numeric values are used for the file archiving and to be allowed to use the different formats; the alphanumeric values are used for the network dissemination

name	`<side>`
description	It records if the digital image covers one or two pages of a book and, in case of a single page, if it is right or left.
path	`metadigit/img`
type	`xsd:enumeration`
required	O
repeatable	No
attributes	

values	`left`
	`right`
	`double`
	`part`

notes	

name	`<scale>`
description	It records the presence of a millimeter scale during the digitalization
path	`metadigit/img`
type	`xsd:enumeration`
required	O
repeatable	No
attributes	
values	`0` - No `1` - yes
components	
notes	

name	`<file>`
description	Link to the multimedia file
path	`metadigit/img`
type	`link`
required	M
repeatable	No
attributes	`Location` (possible values for images: `URN`, `URL`, `PURL`, `HANDLE`, `DOI`, `OTHER`) `xlink:simpleLink` (values: `type`, `href`, `role`, `arcrole`, `title`, `show`, `actuate`) `xlink:type` mandatory, fixed value "`simple`" `xlink:href` optional, identifies a remote resource and must be a URI `xlink:role` optional, describes the role of the remote resource inside the link, must be a URI `xlink:arcrole` optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI `xlink:title` optional, describes the title or the topic of resource

	`xlink:show` optional, describes how the resource should be shown `xlink:actuate` optional, gives informations about when to show the resource
values	Example: ./1340972P/IMG/A0000034.JPG
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	`<md5>`
description	File fingerprint, used to monitor the file integrity
path	`metadigit/img`
type	`xsd:restriction` of `xsd:string` (length = 32)
required	M
repeatable	No
attributes	
values	Example: 829a0b86d421218fc92e7a01597b182e
components	
notes	The regulations to identify the file fingerprint must be defined locally. See http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<filesize>`
description	File dimension expressed in bytes
path	`metadigit/img`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	

values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<image_dimensions>`
description	Image dimension
path	`metadigit/img`
type	`xsd:sequence`
required	M
repeatable	No
attributes	
values	
components	<niso:imagelength> , <niso:imagewidth> , <niso:source_xdimension> (optional), <niso:source_ydimension> (optional)
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 22

name	`<niso:imagelength>`
description	Image length, i.e. its vertical dimension expressed in pixels
path	`metadigit/img/image_dimension`
type	`xsd:positiveInteger`
required	M
repeatable	No
attributes	
values	expressed in pixels

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 23

name	`<niso:imagewidth>`
description	Image wodth, i.e. its horizontal dimension expressed in pixels
path	`metadigit/img/image_dimension`
type	`xsd:positiveInteger`
required	M
repeatable	No
attributes	
values	expressed in pixels
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 22

name	`<niso:source_xdimension>`
description	It specifies the scanned object width expressed in inches
path	`metadigit/img/image_dimension`
type	`xsd:double`
required	O
repeatable	No
attributes	
values	expressed in inches
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 25-26

name	<niso:source_ydimension>
description	It specifies the scanned object length expressed in inches
path	metadigit/img/image_dimension
type	xsd:double
required	O
repeatable	No
attributes	
values	expressed in inches
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 26

name	<image_metrics>
description	Principal technical characteristics of the digital image, according to the NISO standard
path	metadigit/gen/img_group metadigit/img
type	xsd:sequence
required	MA
repeatable	No
attributes	
values	
components	<niso:samplingfrequencyunit> , <niso:samplingfrequencyplane> , <niso:xsamplingfrequency> (optional), <niso:ysamplingfrequency> (optional), <niso:photometricinterpretation> , <niso:bitpersample>

notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 23-26. The element is mandatory whether the `imagegroupID` attribute of the element `img` was not filled out

name	`<niso:samplingfrequencyunit>`
description	Sampling unit of measurement used for <niso:xsamplingfrequency> and <niso:ysamplingfrequency>
path	`metadigit/gen/img_group/image_metrics` `metadigit/img/image_metrics`
type	`xsd:enumeration`
required	M
repeatable	No
attributes	
values	1 (no unit of measurement defined) 2 (inch) 3 (centimetre)
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 24

name	`<niso:samplingfrequencyplane>`
description	Sampling frequency plane
path	`metadigit/gen/img_group/image_metrics` `metadigit/img/image_metrics`
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	1 (camera/scanner focal plane): if the object dimensions to be digitalized are not defined (for example when a photo camera is used)

	2 (object plane): if the object e its reproduction have the same dimension (for example when a scanner is used) 3 (source object plane): if the reproduction dimension is bigger than the original object (from example when the digitized object is a microfilm)
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 25

name	`<niso:xsamplingfrequency>`
description	Sampling frequency in the horizontal direction, alternative to `<ppi>`, where `niso:samplingfrequencyunit` = 2 o 3; where = 1 the field is null
path	`metadigit/gen/img_group/image_metrics` `metadigit/img/image_metrics`
type	`xsd:positiveInteger`
required	MA
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 23

name	`<niso:ysamplingfrequency>`
description	Sampling frequency in the vertical direction, alternative to `<ppi>`, where `niso:samplingfrequencyunit` = 2 o 3; where =1 the field is null
path	`metadigit/gen/img_group/image_metrics` `metadigit/img/image_metrics`
type	`xsd:positiveInteger`
required	MA

repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 23-24

name	`<niso:bitpersample>`
description	bit for each sample, color depth
path	`metadigit/gen/img_group/image_metrics` `metadigit/img/image_metrics`
type	`xsd:enumeration`
required	M
repeatable	No
attributes	
values	`1` (two tones, black and white) `4` (4-bit grey scale) `8` (8-bit grey scale or 256 colours) `8,8,8` (24-bit RGB) `16,16,16` (48-bit TIFF, HDR) `8,8,8,8` (32-bit CMYK)
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 27

name	`<niso:photometricinterpretation>`
description	Photometric interpretation of sampled bits
path	`metadigit/gen/img_group/image_metrics` `metadigit/img/image_metrics`
type	`xsd:enumeration`

required	M
repeatable	No
attributes	
values	WhiteIsZero BlackIsZero RGB Palette color Transparency Mask CMYK YcbCr CIELab
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 8

name	<ppi>
description	pixel per inch, or pixel density, spatial resolution in both the horizontal and vertical directions (squared pixel)
path	metadigit/gen/img_group metadigit/img
type	xsd:positiveInteger
required	O
repeatable	No
attributes	
values	Example: 300, 600
components	
notes	It is equivalent to: <samplingfrequencyunit> = 2 <xsamplingfrequency> = ppi <ysamplingfrequency> = ppi

name	<dpi>

description	like <ppi>, the number of individual dots that can be placed within the span of one linear inch, conserved to grant compatibility with previous version but unrecommended
path	metadigit/gen/img_group metadigit/img
type	xsd:positiveInteger
required	O
repeatable	No
attributes	
values	Examples: 300, 600
components	
notes	It is equivalent to: <samplingfrequencyunit> = 2 <xsamplingfrequency> = dpi <ysamplingfrequency> = dpi

name	<format>
description	Image typology and compression technique adopted
path	metadigit/gen/img_group metadigit/img
type	xsd:sequence
required	M
repeatable	No
attributes	
values	
components	<niso:name> , <niso:mime> , <niso:compression>

notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 7-8

name	`<niso:name>`
description	Image format
path	`metadigit/gen/img_group/format` `metadigit/img/format`
type	`xsd:string`
required	O
repeatable	No
attributes	

values	Examples:
	`JPG`
	`TIF`
	`GIF`
	`PDF`

components	
notes	We recommend the expression of three-characters values. An alternative syntax may be adopted for those formats that code the revision number in their file header: [file format][revision number], for example: TIFF/EP 1.0.0.0. See http://www.niso.org/pdfs/DataDict.pdf, p. 7

name	`<niso:mime>`
description	MIME typology of image file
path	`metadigit/gen/img_group/format` `metadigit/img/format`
type	`xsd:enumeration`
required	M
repeatable	No
attributes	

values	image/jpeg image/tiff image/gif image/png image/vnd.djvu application/pdf
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 7.

name	<niso:compression>
description	Compression algorithm of image
path	metadigit/gen/img_group/format metadigit/img/format
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	Uncompressed CCITT 1D CCITT Group 3 CCITT Group 4 LZW JPG PNG DJVU
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 8

name	<scanning>
description	Scanning activity description
path	metadigit/gen/img_group metadigit/img

type	`xsd:sequence`
required	O
repeatable	No
attributes	
values	
components	<niso:sourcetype> (optional), <niso:scanningagency> (optional), <niso:devicesource> (optional), <niso:scanningsystem> (optional)
notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 16-18

name	`<niso:sourcetype>`
description	physical characteristics of the original analogical support
path	`metadigit/gen/img_group/scanning` `metadigit/img/scanning`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: `negative` (for photo images whose tone values are reversed compared to the depicted subject and enable the production of an undefined numer of “positives”) `positive` (for photo images obtained from "negatives", in which the color and luminance correlates directly with that in the depicted subject; "positives" are also the products obtained form virtual matrix through printers, plotters, etc.) `reversal film` (for positive photo images on a transparent base processed to produce transparencies intended for projection onto a screen using a slide projector) `unicum` (for unique photo images , produced without the mediation of negatives and not usable as a matrix; “unicum” can be, for examples, Daguerreotypes, ambrotypes, ferrotypes, polaroids or unique products obtained by electronic analogical-digital technologies, such as facsimile/fax o photocopier)

	`virtual photography` (for "virtual matrix", i.e. for latent images recorded on analogical, analogical-digital or digital mass storage media) `various: .../...` (for complex and/or composite objects composed by elements of several categories. Examples: various: positive/unicum; various: unicum/positive/virtual photography)
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 16; The values examples are taken from the photography cataloguing rules of Italian Central Institute for catalogue and Documentation ICCD http://www.iccd.beniculturali.it/download/schedaf.pdf

name	`<niso:scanningagency>`
description	person, company or corporate body who produced the image
path	`metadigit/gen/img_group/scanning` `metadigit/img/scanning`
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 17

name	`<niso:devicesource>`
description	Type of scanning device
path	`metadigit/gen/img_group/scanning` `metadigit/img/scanning`
type	`xsd:string`
required	O

repeatable	No
attributes	

values	Examples:
	`scanner,`
	`digital camera,`
	`video camera`

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 17-18

name	`<niso:scanningsystem>`
description	Image scanning system
path	`metadigit/gen/img_group/scanning` `metadigit/img/scanning`
type	`xsd:sequence`
required	O
repeatable	No
attributes	
values	
components	<niso:scanner_manufacturer> , <niso:scanner_model> , <niso:capture_software>
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	`<niso:scanner_manufacturer>`
description	Producer of the used scanning device
path	`metadigit/gen/img_group/scanning/niso:scanningsystem` `metadigit/img/scanning/niso:scanningsystem`
type	`xsd:string`

required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	`<niso:scanner_model>`
description	Trademark and model of the used scanning device
path	`metadigit/gen/img_group/scanning/niso:scanningsystem` `metadigit/img/scanning/niso:scanningsystem`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	`<niso:capture_software>`
description	Scanning software used
path	`metadigit/gen/img_group/scanning/niso:scanningsystem` `metadigit/img/scanning/niso:scanningsystem`

type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	<datetimecreated>
description	Data and time of file creation
path	metadigit/img
type	xsd:datetime
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	<target>
description	It records if there was a target during image scanning and defines if it is internal or external to the image
path	metadigit/img
type	xsd:sequence
required	O

repeatable	yes
attributes	
values	
components	<niso:targetType> , <niso:targetID> , <niso:imageData> , <niso:performanceData> (optional), <niso:profiles> (optional)
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 30

name	`<niso:targetType>`
description	identifies if the target is internal or external
path	`metadigit/img/target`
type	`xsd:enumeration`
required	M
repeatable	No
attributes	
values	`0` - (external) `1` - (internal)
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 31

name	`<niso:targetID>`
description	identifies the target name, producer or organization, its version number or its media
path	`metadigit/img/target`
type	`xsd:string`

required	M
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 31-32

name	`<niso:imageData>`
description	identifies the digital image path, taken form the analogical object
path	`metadigit/img/target`
type	`xsd:anyURI`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 32; to be used just, but mandatory in this case, where `<targetType>` is 0 (i.e. external).

name	`<niso:performanceData>`
description	identifies the path of image data related to the target identified by `<targetID>`.
path	`metadigit/img/target`
type	`xsd:anyURI`

required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 32

name	`<niso:profiles>`
description	identifies the file path with the ICC color profile or other management profiles
path	`metadigit/img/target`
type	`xsd:anyURI`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 33

name	`<altimg>`
description	Alternative formats of the master image. The recommended usage of those formats is described in <usage> , for example: *medium-resolution copy* for Intranet diffusion; low-resolution copy for the geographic dissemination; thumbnail copy
path	`metadigit/`
type	`xsd:sequence`
required	O

repeatable	yes
attributes	`imggroupID` (`xsd:ID`, optional)
values	
components	<usage> (optional), <file> , <md5> , <filesize> (optional), <image_dimensions> , <image_metrics> (optional), <ppi> (optional), <dpi> (sconsigliato, optional), <format> (optional), <scanning> (optional), <datetimecreated> (optional)
notes	

name	`<notes>`
description	Any annotation about the image
path	`metadigit/img`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	
components	
notes	

section ocr

It collects metadata about text files obtained by automatic optical character recognition.

name	`<ocr>`
description	Describes a text file obtained by automatic optical character recognition
path	`metadigit`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	`holdingsID` (`xsd:IDREF`, optional; refers to the attribute ID of `bib/holdings`)
values	
components	<sequence_number>, <nomenclature>, <usage> (optional), <file>, <md5>, <source>, <filesize> (optional), <format>, <software_ocr> (optional), <datetimecreated> (optional), <notes> (optional)
notes	

name	`<sequence_number>`
description	Progressive number that identifies a multimedia file inside the XML file
path	`metadigit/ocr`
type	`xsd:positiveInteger`
required	O
repeatable	No

attributes	
values	
components	
notes	In this section an uniqueness constrain is imposed.

name	`<nomenclature>`
description	description of text content
path	`metadigit/ocr`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: "Chapter 1", "Canto 2"
components	
notes	The terminology to be adopted must be defined among the project standards

name	`<usage>`
description	Suggested usage for the text
path	`metadigit/ocr`
type	`xsd:string`
required	O
repeatable	yes
attributes	

values	Examples: a: the repository detains no copyright b: the repository detains the copyright
components	
notes	We suggest the adoption of a controlled terminology

name	<file>
description	link to the text file
path	metadigit/ocr
type	link
required	M
repeatable	No
attributes	Location (possible values for images: URN, URL, PURL, HANDLE, DOI, OTHER) xlink:simpleLink (values: type, href, role, arcrole, title, show, actuate) xlink:type mandatory, fixed value "simple" xlink:href optional, identifies a remote resource and must be a URI xlink:role optional, describes the role of the remote resource inside the link, must be a URI xlink:arcrole optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI xlink:title optional, describes the title or the topic of resource xlink:show optional, describes how the resource should be shown xlink:actuate optional, gives informations about when to show the resource
values	Example: ./1340972P/IMG/A0000034.TXT
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	<md5>
description	File fingerprint, used to monitor the file integrity
path	metadigit/ocr

type	`xsd:restriction` of `xsd:string` (length = 32)
required	M
repeatable	No
attributes	
values	Example: 829a0b86d421218fc92e7a01597b182e
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13-14

name	`<source>`
description	link to the source file used for the optical recognition (for example to the TIFF image obtained by scanning a book)
path	`metadigit/ocr`
type	`xsd:string`
required	M
repeatable	No
attributes	`location` (`xsd:enumeration` [`URN/URL/PURL/HANDLE/DOI/OTHER`], optional), `xlink:simpleLink` (`xsd:sequence` [`href, role, arcrole, title, show, actuate`], optional)
values	
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	`<filesize>`
description	File dimensions in bytes
path	`metadigit/ocr`

type	xsd:positiveInteger
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	<format>
description	Image typology and compression technique adopted
path	metadigit/ocr
type	xsd:sequence
required	M
repeatable	No
attributes	
values	
components	<niso:name> , <niso:mime> , <niso:compression>
notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 5-6

name	<niso:name>
description	Text file format
path	metadigit/ocr/format
type	xsd:string

required	O
repeatable	No
attributes	
values	Examples: TXT, DOC, RTF, PDF
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 7

name	<niso:mime>
description	MIME typology of text file
path	metadigit/ocr/format
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	text/plain text/xml text/html text/rtf application/msword application/pdf
components	
notes	

name	<niso:compression>
description	Compression algorithm of text file

path	metadigit/ocr/format
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	Uncompressed ZIP RAR GZ
components	
notes	

name	<software_ocr>
description	software used for character recognition
path	metadigit/ocr
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<datetimecreated>
description	data and time of file creation
path	metadigit/ocr

type	xsd:datetime
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<notes>
description	Any annotation about text file
path	metadigit/ocr
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	

section doc

It collects metadata about a text file directly proof-read and/or possibly codified in any formal language.

name	`<doc>`
description	It describes a text file directly proof-read and/or possibly codified
path	`metadigit`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	`holdingsID` (`xsd:IDREF`, optional; refers to attribute ID of `bib/holdings`)
values	
components	<sequence_number> , <nomenclature> , <usage> <file> , <md5> , <filesize> , <format> , <datetimecreated> , <notes>
notes	For the components description see sections IMG e GEN

name	`<sequence_number>`
description	Progressive number that identifies a multimedia file inside the XML file
path	`metadigit/doc`
type	`xsd:positiveInteger`
required	O
repeatable	No

attributes	
values	
components	
notes	In this section a uniqueness constrain is imposed

name	`<nomenclature>`
description	description of text file
path	`metadigit/doc`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: "Chapter 1", "Canto 2"
components	
notes	The terminology to be adopted must be defined among the project standards

name	`<usage>`
description	Recommended usage for text file
path	`metadigit/ocr`
type	`xsd:string`
required	O
repeatable	yes
attributes	

values	Examples: a: the repository detains no copyright b: the repository detains the copyright
components	
notes	We suggest the adoption of a controlled terminology.

name	<file>
description	link to the multimedia file
path	metadigit/doc
type	link
required	M
repeatable	No
attributes	Location (possible values for images: URN, URL, PURL, HANDLE, DOI, OTHER) xlink:simpleLink (values: type, href, role, arcrole, title, show, actuate) xlink:type mandatory, fixed value "simple" xlink:href optional, identifies a remote resource and must be a URI xlink:role optional, describes the role of the remote resource inside the link, must be a URI xlink:arcrole optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI xlink:title optional, describes the title or the topic of resource xlink:show optional, describes how the resource should be shown xlink:actuate optional, gives informations about when to show the resource
values	Example: ./1340972P/TXT/A0000034.TXT
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	<md5>
description	File fingerprint, used to monitor the file integrity
path	metadigit/doc

type	`xsd:restriction` of `xsd:string` (length = 32)
required	M
repeatable	No
attributes	
values	Example: 829a0b86d421218fc92e7a01597b182e
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<filesize>`
description	File dimension in bytes
path	`metadigit/doc`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<format>`
description	Text file typology and compression technique adopted
path	`metadigit/doc`
type	`xsd:sequence`
required	M

repeatable	No
attributes	
values	
components	<niso:name> , <niso:mime> , <niso:compression>
notes	see http://www.niso.org/pdfs/DataDict.pdf, pp. 5-6

name	`<niso:name>`
description	Text format
path	`metadigit/doc/format`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: `XML`, `DOC`, `RTF`, `PDF`
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 7

name	`<niso:mime>`
description	MIME typology of text file
path	`metadigit/doc/format`
type	`xsd:enumeration`
required	M

repeatable	No
attributes	
values	text/plain text/xml text/html text/rtf application/msword application/pdf
components	
notes	

name	<niso:compression>
description	Compression algorithm of text file
path	metadigit/doc/format
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	Uncompressed ZIP RAR GZ
components	
notes	

name	<datetimecreated>
description	data and time of file creation
path	metadigit/doc

type	xsd:datetime
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<notes>
description	Any annotation about the text file
path	metadigit/doc
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	

Section audio

It collects metadata about a file containing an audio track

name	`<audio>`
description	It describes the data about a file containing an audio track
path	`metadigit`
type	`xsd:sequence`
required	MA
repeatable	yes
attributes	`holdingsID` (`xsd:IDREF` optional refers to the attribute ID of `bib/holdings`) `audiogroupID` (`xsd:IDREF` optional refers to the attribute ID of `gen/audio_group`)
values	
components	<sequence_number> , <nomenclature> , <proxies> , <notes> (optional)
notes	Where the attribute `audiogroupID` was not recorded and the technical characteristics of audio track were not described, `<audio_metrics>` must be provided inside `<proxies>`.

name	`<sequence_number>`
description	Progressive number that identifies a multimedia file inside the XML file
path	`metadigit/audio`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	

values	
components	
notes	In this section a uniqueness constrain is imposed.

name	`<nomenclature>`
description	description of an audio track
path	`metadigit/audio`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Examples: "Overture", "Primo Atto"
components	
notes	The terminology to be adopted must be defined among the project standards

name	`<proxies>`
description	description of a digital audio track reproducing the phisical object identified by `<sequence_number>`
path	`metadigit/audio`
type	`xsd:sequence`
required	M
repeatable	yes
attributes	`audiogroupID` (`xsd:IDREF optional`)

values	
components	<usage> (optional), <file> , <md5> , <filesize> (optional), <audio_dimensions> <audio_metrics> (optional), <format> (optional), <transcription> (optional), <datetimecreated> (optional)
notes	

name	`<usage>`
description	Suggested usage for the audio track in relation to applications that would launch it
path	`metadigit/audio/proxies`
type	`xsd:string`
required	O
repeatable	yes
attributes	
values	Examples: 1: master 2: high-resolution 3: low-resolution 4: preview a: the repository detains no copyright b: the repository detains the copyright
components	
notes	The numeric values are used for the file archiving and to be allowed to use the different formats; the alphanumeric values are used for the network dissemination

name	`<file>`
description	link to the multimedia file

path	`metadigit/audio/proxies`
type	`link`
required	M
repeatable	No
attributes	`Location` (possible values for images: `URN`, `URL`, `PURL`, `HANDLE`, `DOI`, `OTHER`) `xlink:simpleLink` (values: `type`, `href`, `role`, `arcrole`, `title`, `show`, `actuate`) `xlink:type` mandatory, fixed value "`simple`" `xlink:href` optional, identifies a remote resource and must be a URI `xlink:role` optional, describes the role of the remote resource inside the link, must be a URI `xlink:arcrole` optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI `xlink:title` optional, describes the title or the topic of resource `xlink:show` optional, describes how the resource should be shown `xlink:actuate` optional, gives informations about when to show the resource
values	Example: ./1340972P/AUDIO/A0000034.WAV
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	`<md5>`
description	file fingerprint, used to monitor the file integrity
path	`metadigit/audio/proxies`
type	`xsd:restriction` of `xsd:string` (length = 32)
required	M
repeatable	No
attributes	
values	Example: 829a0b86d421218fc92e7a01597b182e
components	

notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<filesize>`
description	File dimension in bytes
path	`metadigit/audio/proxies`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<audio_dimensions>`
description	Audio track dimension
path	`metadigit/audio/proxies`
type	`xsd:sequence`
required	M
repeatable	No
attributes	
values	
components	<duration>
notes	

name	`<duration>`

description	Audio track duration
path	`metadigit/audio/proxies`
type	`xsd:time`
required	M
repeatable	No
attributes	
values	
components	
notes	

name	`<audio_metrics>`
description	It defines the technical characteristics of the digital audio track
path	`metadigit/audio/proxies` `metadigit/gen/audio_group`
type	`xsd:sequence`
required	MA
repeatable	No
attributes	
values	
components	<samplingfrequency> (<bitpersample> | <bitrate>)
notes	The element is mandatory where the attribute `imggroupID` of the element `<img>` was not recorded.

name	`<samplingfrequency>`

description	Sampling frequency expressed in Khz (kilohertz)
path	metadigit/audio/proxies/audio_metrics metadigit/gen/audio_group/audio_metrics
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	8 11.025 12 16 22.05 24 32 44.1 48 96
components	
notes	

name	<bitpersample>
description	bit number for the single sample
path	metadigit/audio/proxies/audio_metrics metadigit/gen/audio_group/audio_metrics
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	8 16 24

components	
notes	

name	<bitrate>
description	It records the kbits per second of the single sample
path	metadigit/audio/proxies/audio_metrics metadigit/gen/audio_group/audio_metrics
type	xsd:enumeration, xsd:choice
required	M
repeatable	No
attributes	
values	
components	24 32 48 56 64 96 128 160 192 256 320 384
notes	

name	<format>
description	Typology of digital audio track and compression technique adopted
path	metadigit/audio/proxies metadigit/gen/audio_group
type	xsd_sequence
required	M

repeatable	No
attributes	
values	
components	<name> <mime> <compression> (optional), <channel_configuration> (optional)
notes	

name	<name>
description	audio format
path	metadigit/audio/proxies/format metadigit/gen/audio_group/format
type	xsd:string
required	O
repeatable	No
attributes	
values	Examples: WAV MP3
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 7

name	<mime>
description	MIME typology of audio file
path	metadigit/audio/proxies/format metadigit/gen/audio_group/format
type	xsd:enumeration

required	M
repeatable	No
attributes	
values	
components	audio/wav audio/mpeg audio/mpg audio/mp3 audio/x-mpeg audio/midi audio/x-realaudio
notes	

name	<compression>
description	Compression algorithm of audio file
path	metadigit/audio/proxies/format metadigit/gen/audio_group/format
type	xsd:enumeration
required	O
repeatable	No
attributes	
values	Uncompressed Linear PCM MPEG-1 layer 1 MPEG-1 layer 2 MPEG-1 layer 3 AC3 Dolby DTS
components	
notes	

name	`<channel_configuration>`
description	It records the configuration schema of audio channels
path	`metadigit/audio/proxies/format/` `metadigit/gen/audio_group/format`
type	`xsd:enumeration`
required	O
repeatable	No
attributes	

values	`Mono`
	`Dual mono`
	`Joint stereo`
	`Stereo`
	`2 ch`
	`4 ch`
	`5.1 ch`
	`6.1 ch`

components	
notes	

name	`<transcription>`
description	Describes the digital transcription technique adopted for the audio track
path	`metadigit/audio/proxies` `metadigit/gen/audio_group`
type	`xsd:sequence`
required	O
repeatable	No
attributes	
values	
components	<sourcetype> <transcriptionagency> (optional), <transcriptiondate> (optional),

	<devicesource> (optional), <transcriptionchain> (optional), <transcriptionsummary> (optional), <transcriptiondata> (optional)
notes	

name	`<sourcetype>`
description	informations on source type of audio data
path	`metadigit/audio/proxies/transcription` `metadigit/gen/audio_group/transcription`
type	`xsd:string`
required	O
repeatable	No
attributes	

values	Examples:
	`Sound recording`
	`Gramophone record`
	`Tape (Reel-to-reel)`
	`Tape (Compact Cassette)`
	`Wire recording`
	`Phonograph cylinder`
	`Sound film`
	`Gramophone record (33⅓ rpm)`
	`Gramophone record (45 rpm)`
	`Gramophone record (78 rpm)`
	`Other`

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 16. The proposed nomenclature is taken from the Management catalogue of Italian *Discoteca di Stato* (Audiovisual Central Institute)

name	`<transcriptionagency>`
description	Name of the organization that produced the digitalization
path	`metadigit/audio/proxies/transcription` `metadigit/gen/audio_group/transcription`

type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<transcriptiondate>
description	Digitalization date
path	metadigit/audio/proxies/transcription metadigit/gen/audio_group/transcription
type	xsd:dateTime
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<devicesource>
description	Informations on the audio device type used for the digitalization
path	metadigit/audio/proxies/transcription metadigit/gen/audio_group/transcription
type	xsd:string

required	O
repeatable	No
attributes	

values	Examples:
	`microphone`
	`recorder`
	`phonograph`

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	`<transcriptionchain>`
description	It describes the transcription chain
path	`metadigit/audio/proxies/transcription` `metadigit/gen/audio_group/transcription`
type	`xsd:sequence`
required	
repeatable	yes
attributes	
values	
components	<device_description> , <device_manufacturer> , <device_model> , <capture_software> , <device_settings>
notes	

name	`<device_description>`
description	Describes the devices used for audio digitalization
path	`metadigit/audio/proxies/transcription`

	/transcriptionchain metadigit/gen/audio_group/transcription /transcriptionchain
type	xsd:string
required	M
repeatable	No
attributes	Type (xsd:string mandatory) Unique_identifier (xsd:string) comment: not unique Comments (xsd:string)
values	
components	
notes	

name	<device_manufacturer>
description	Producer of the device used for the transcription
path	metadigit/audio/proxies/transcription /transcriptionchain metadigit/gen/audio_group/transcription /transcriptionchain
type	xsd:string
required	M
repeatable	No
attributes	
values	
components	
notes	

name	<device_model>

description	Device model used for the transcription
path	`metadigit/audio/proxies/transcription /transcriptionchain metadigit/gen/audio_group/transcription /transcriptionchain`
type	`xsd:string`
required	M
repeatable	No
attributes	`Model` (`xsd:string`, mandatory) `Serial_Number` (`xsd:string`, optional)
values	
components	
notes	

name	`<capture_software>`
description	Acquisition software of audio content
path	`metadigit/audio/proxies/transcription /transcriptionchain metadigit/gen/audio_group/transcription /transcriptionchain`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 19

name	<device_settings>
description	Audio device settings
path	metadigit/audio/proxies/transcription /transcriptionchain metadigit/gen/audio_group/transcription /transcriptionchain
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<transcriptionsummary>
description	It records the data measured during the digitalization process *as regards synthetic values*. It enables to define names, types and values of measured physical quantities, allowing their hierarchical nesting (for example: values for channel). It supports two alternative formats: 1. using the elements <grouping> and <transcriptionsummary> it is possible to group data typologies; 2. using the elements <data_description>, <data_unit> and <data_value> the considered measures are defined.
path	metadigit/audio/proxies/transcription metadigit/audio/proxies/transcription/transcriptionsummary/*/ metadigit/gen/audio_group/transcription metadigit/gen/audio_group/transcription/transcriptionsummary/*/
type	xsd:sequence xsd:choice
required	O
repeatable	yes

attributes	
values	
components	(<grouping> , <transcriptionsummary> optional) | (<data_description> , <data_unit> optional, <data_value>)
notes	Each project must define its insert level.

name	`<grouping>`
description	Level tag
path	`metadigit/audio/proxies/transcription/transcriptionsummary` `metadigit/gen/audio_group/transcription/transcriptionsummary`
type	`xsd:string`
required	M
repeatable	No
attributes	

values	Examples:
	`analogical distortion`
	`digital domain distortion`

components	
notes	

name	`<data_description>`
description	Considered data tag
path	`metadigit/audio/proxies/transcription/transcriptionsummary` `metadigit/gen/audio_group/transcription/transcriptionsummary`
type	`xsd:string`

required	M
repeatable	No
attributes	
values	Examples: sampling frequency intermodulation
components	
notes	

name	<data_unit>
description	Unit of measurement
path	metadigit/audio/proxies/transcription/transcriptionsummary metadigit/gen/audio_group/transcription/transcriptionsummary
type	xsd:string
required	O
repeatable	No
attributes	
values	Examples: Khz %
components	
notes	

name	<data_value>
description	measured data value
path	metadigit/audio/proxies/transcription/transcriptionsummary

	metadigit/gen/audio_group/transcription/transcriptionsummary
type	xsd:float
required	O
repeatable	No
attributes	
values	Number values
components	
notes	

name	<transcriptiondata>
description	It records the data sequences measured during the digitalization process. It enables to define names, types and values of measured physical quantities, allowing their hierarchical nesting (for example: values for channel). It supports two alternative formats: 1. using the elements <grouping> and <transcriptiondata> it is possible to group data typologies; 2. using the elements <data_description>, <data_unit> and <data_value> the considered measures are defined.
path	metadigit/audio/proxies/transcription metadigit/audio/proxies/transcription/transcriptiondata/*/ metadigit/gen/audio_group/transcription metadigit/gen/audio_group/transcription/transcriptiondata/*/
type	xsd:sequence xsd:choice
required	O
repeatable	yes
attributes	
values	
components	(<grouping> , <transcriptiondata> optional) |

	(<data_description> , <data_unit> optional, <interval> , <data_value>)
notes	

name	<grouping>
description	Level tag
path	metadigit/audio/proxies/transcription/transcriptiondata metadigit/gen/audio_group/transcription/transcriptiondata
type	xsd:string
required	M
repeatable	No
attributes	
values	
components	
notes	

name	<data_description>
description	Considered data tag
path	metadigit/audio/proxies/transcription/transcriptiondata metadigit/gen/audio_group/transcription/transcriptiondata
type	xsd:string
required	M
repeatable	No
attributes	
values	Example:

	amplitude
components	
notes	

name	<data_unit>
description	Unit of measurement
path	metadigit/audio/proxies/transcription/transcriptiondata metadigit/gen/audio_group/transcription/transcriptiondata
type	xsd:string
required	O
repeatable	No
attributes	
values	Example: dB
components	
notes	

name	<interval>
description	Acquisition period (start - stop time)
path	metadigit/audio/proxies/transcription/transcriptiondata metadigit/gen/audio_group/transcription/transcriptiondata
type	
required	O
repeatable	No

attributes	`start` (`xsd:time` mandatory) `stop` (`xsd:time mandatory`)
values	
components	
notes	

name	`<data_value>`
description	Measured value
path	`metadigit/audio/proxies/transcription/transcriptiondata` `metadigit/gen/audio_group/transcription/transcriptiondata`
type	`xsd:float`
required	O
repeatable	yes
attributes	
values	Number values
components	
notes	

name	`<datetimecreated>`
description	Digitalization date
path	`metadigit/audio/proxies`
type	`xsd:datetime`
required	O
repeatable	No

attributes	
values	
components	
notes	

name	`<notes>`
description	Any annotation about audio file
path	`metadigit/audio`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	
components	
notes	

Section Video

It collects metadata about a video stream.

name	`<video>`
description	It records data about a file containing a video stream
path	`metadigit`
type	`xsd:sequence`
required	O
repeatable	No
attributes	`holdingsID` (`xsd:IDREF` optional - refers to the attribute ID of `bib/holdings`) `videogroupID` (`xsd:IDREF` optional - refers to the attribute ID of `gen/video_group`)
values	
components	<sequence_number> , <nomenclature> , <proxies> , <notes> (optional)
notes	Where the attribute `videogroupID` was not recorded so that the technical characteristics of video stream were not recorded, it has to be present `<video_metrics>` inside `<proxies>`.

name	`<sequence_number>`
description	Progressive number that identifies a video content inside the XML file
path	`metadigit/video`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	

values	
components	
notes	In this section a uniqueness constrain is imposed.

name	`<nomenclature>`
description	description of a video stream
path	`metadigit/video`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	Example: "Canzonissima '52", "Fiorella Mannoia live"
components	
notes	The terminology to be adopted must be defined among the project standards

name	`<proxies>`
description	description of the video stream reproducing the physical object identified by `<sequence_number>`
path	`metadigit/video`
type	`xsd:sequence`
required	M
repeatable	yes
attributes	`videogroupID` (`xsd:IDREF`, optional)

values	
components	<usage> optional, <file> <md5> <filesize> <video_dimensions> <video_metrics> optional, <format> optional, <digitisation> optional, <datetimecreated> optional
notes	

name	`<usage>`
description	Suggested usage of video
path	`metadigit/video/proxies`
type	`xsd:string`
required	O
repeatable	yes
attributes	
values	Examples: 1: master 2: high-resolution 3: low-resolution 4: preview a: the repository detains no copyright b: the repository detains the copyright
components	
notes	The numeric values are used for the file archiving and to be allowed to use the different formats; the alphanumeric values are used for the network dissemination

name	`<file>`
description	link to multimedia file

path	`metadigit/video/proxies`
type	`link`
required	M
repeatable	No
attributes	`Location` (possible values for images: `URN`, `URL`, `PURL`, `HANDLE`, `DOI`, `OTHER`) `xlink:simpleLink` (values: `type`, `href`, `role`, `arcrole`, `title`, `show`, `actuate`) `xlink:type` mandatory, fixed value "`simple`" `xlink:href` optional, identifies a remote resource and must be a URI `xlink:role` optional, describes the role of the remote resource inside the link, must be a URI `xlink:arcrole` optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI `xlink:title` optional, describes the title or the topic of resource `xlink:show` optional, describes how the resource should be shown `xlink:actuate` optional, gives informations about when to show the resource
values	Example: ./1340972P/VIDEO/A0000034.AVI
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	`<md5>`
description	file fingerprint, used to monitor the file integrity
path	`metadigit/video/proxies`
type	`xsd:restriction` of `xsd:string` (length = 32)
required	M
repeatable	No
attributes	
values	Example: 829a0b86d421218fc92e7a01597b182e
components	

notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<filesize>`
description	File dimension in bytes
path	`metadigit/video/proxies`
type	`xsd:positiveInteger`
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 13

name	`<video_dimension>`
description	Video file dimension
path	`metadigit/video/proxies`
type	`xsd:sequence`
required	M
repeatable	No
attributes	
values	
components	<duration>
notes	

name	`<duration>`

description	Duration of video stream
path	`metadigit/video/proxies/video_dimension`
type	`xsd:time`
required	M
repeatable	No
attributes	
values	
components	
notes	

name	`<video_metrics>`
description	Technical characteristics of digital video stream
path	`metadigit/video/proxies` `metadigit/gen/video_group`
type	`xsd:sequence`
required	MA
repeatable	No
attributes	
values	
components	<videosize> <aspectratio> <framerate>
notes	The element is mandatory if the attribute `videogroupID` of the element `<video>` is not recorded.

name	<videosize>
description	definition of frame measured in pixels
path	metadigit/video/proxies/video_metrics metadigit/gen/video_group/video_metrics
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	
components	160x120 176x144 192x144 280x180 320x240 352x288 360x288 384x288 480x576 720x576
notes	

name	<aspectratio>
description	Image format (width:height)
path	metadigit/video/proxies/video_metrics metadigit/gen/video_group/video_metrics
type	enumeration
required	M
repeatable	No
attributes	
values	1:1 4:3

	16:9 2.11:1
components	
notes	

name	<framerate>
description	Frames per second of video flux
path	metadigit/video/proxies/video_metrics metadigit/gen/video_group/video_metrics
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	
components	23.976 24 25 29.97 30 50 59.94 60
notes	

name	<format>
description	video stream typology and compression technique adopted
path	metadigit/video/proxies metadigit/gen/video_group
type	xsd:sequence
required	

repeatable	
attributes	
values	
components	<name> <mime> <videoformat> <encode> <streamtype> (optional), <codec> (optional)
notes	

name	`<name>`
description	Video format definition
path	`metadigit/video/proxies/format` `metadigit/gen/video_group/format`
type	`xsd:string`
required	O
repeatable	No
attributes	

values	Examples:
	`WMV,`
	`MPEG,`
	`ASF`

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 7

name	`<mime>`
description	MIME typology of video stream file
path	`metadigit/video/proxies/format` `metadigit/gen/video_group/format`

type	xsd:string
required	M
repeatable	No
attributes	
values	video/x-ms-asf video/avi video/mpeg video/vnd.rn-realvideo video/wmv
components	
notes	

name	<videoformat>
description	Video standard
path	metadigit/video/proxies/format metadigit/gen/video_group/format
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	Component NTSC PAL SECAM Unspecified
components	
notes	

name	<encode>

description	encoding type
path	metadigit/video/proxies/format metadigit/gen/video_group/format
type	xsd:enumeration
required	M
repeatable	No
attributes	
values	interlaced non-interlaced
components	
notes	

name	<streamtype>
description	Compression and encapsulation type of video stream
path	metadigit/video/proxies/format metadigit/gen/video_group/format
type	xsd:enumeration
required	O
repeatable	No
attributes	
values	Uncompressed MPEG-1 MPEG-2 MPEG-4
components	
notes	

name	<codec>

description	the device or application used for encoding and/or decoding the digital video stream
path	`metadigit/video/proxies/format` `metadigit/gen/video_group/format`
type	`xsd:string`
required	O
repeatable	No
attributes	

values	Examples:
	`DIVX,`
	`XVID`

components	
notes	

name	`<digitisation>`
description	describes the transcription process of video content
path	`metadigit/video/proxies` `metadigit/gen/video_group`
type	`xsd:sequence`
required	O
repeatable	No
attributes	
values	
components	<sourcetype> <transcriptionagency> <devicesource> <transcriptionchain> <transcriptionsummary>

	<transcriptiondata>
notes	

name	`<sourcetype>`
description	Physical characteristics of original analogical storage medium
path	`metadigit/video/proxies/digitisation` `metadigit/gen/video_group/proxies/digitisation`
type	`xsd:string`
required	O
repeatable	No
attributes	

values	Examples:
	`Video`
	`Video camera recording`
	`Video cartridge`
	`Videotape`
	`Video reel`
	`Other`
	`Slides, slides series, stereograph`

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 16. The proposed nomenclature is taken from the Management catalogue of Italian *Discoteca di Stato* (Audiovisual Central Institute)

name	`<transcriptionagency>`
description	Name of the organization responsible for the digitalization
path	`metadigit/video/proxies/digitisation` `metadigit/gen/video_group/digitisation`
type	`xsd:string`
required	O

repeatable	No
attributes	
values	
components	
notes	

name	`<devicesource>`
description	Type of device used for the digitalization
path	`metadigit/video/proxies/digitisation` `metadigit/gen/video_group/digitisation`
type	`xsd:string`
required	O
repeatable	No
attributes	

values	Examples:
	`Video device`
	`Video recorder`
	`Video acquisition card`
	`Telecine`

components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 18

name	`<transcriptionchain>`
description	It describes the transcription chain
path	`metadigit/video/proxies/digitisation` `metadigit/gen/video_group/digitisation`
type	`xsd:sequence`

required	
repeatable	yes
attributes	
values	
components	<device_description> , <device_manufacturer> , <device_model> , <capture_software> , <device_settings>
notes	

name	`<device_description>`
description	Describes the devices used for video digitalization
path	`metadigit/video/proxies/digitisation /trascriptionchain` `metadigit/gen/video_group/digitisation /trascriptionchain`
type	`xsd:string`
required	M
repeatable	No
attributes	`Type` (`xsd:string` mandatory) `Unique_identifier` (`xsd:string`) `Comments` (`xsd:string`)
values	
components	
notes	

name	`<device_manufacturer>`
description	Producer of the device used for the transcription

path	metadigit/video/proxies/digitisation/trascriptionchain metadigit/gen/video_group/digitisation/trascriptionchain
type	xsd:string
required	M
repeatable	No
attributes	
values	
components	
notes	

name	<device_model>
description	Model of the device used for the transcription
path	metadigit/video/proxies/digitisation/trascriptionchain metadigit/gen/video_group/digitisation/trascriptionchain
type	xsd:string
required	M
repeatable	No
attributes	Model (xsd:string, mandatory) Serial_Number (xsd:string, optional)
values	
components	
notes	

name	<capture_software>

description	Aquisition software of video content
path	metadigit/video/proxies/digitisation/trascriptionchain metadigit/gen/video_group/digitisation/trascriptionchain
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	see http://www.niso.org/pdfs/DataDict.pdf, p. 19

name	<device_settings>
description	Video device settings
path	metadigit/video/proxies/digitisation/trascriptionchain metadigit/gen/video_group/digitisation/trascriptionchain
type	xsd:string
required	O
repeatable	No
attributes	
values	
components	
notes	

name	<transcriptionsummary>

description	It records the data measured during the digitalization process *as regards synthetic values*. It enables to define names, types and values of measured physical quantities, allowing their hierarchical nesting (for example: values for channel). It supports two alternative formats: 1. using the elements `<grouping>` and `<transcriptionsummary>` it is possible to group data typologies; 2. using the elements `<data_description>`, `<data_unit>` and `<data_value>` the considered measures are defined.

path	`metadigit/video/proxies/digitisation`
	`metadigit/video/proxies/digitisation/trascriptionsummary/*/`
	`metadigit/gen/video_group/digitisation`
	`metadigit/gen/video_group/digitisation/trascriptionsummary/*/`

type	`xsd:sequence` `xsd:choice`
required	O
repeatable	yes
attributes	
values	
components	(<grouping> , <transcriptionsummary> optional) | (<data_description> , <data_unit> optional, <data_value>)
notes	Each project must define the preferred insert level.

name	`<grouping>`
description	Level tag
path	`metadigit/video/proxies/digitisation/trascriptionsummary` `metadigit/gen/video_group/digitisation/trascriptionsummary`
type	`xsd:string`
required	M
repeatable	No

attributes	
values	Example: `lost frames`
components	
notes	

name	`<data_description>`
description	Considered data tag
path	`metadigit/video/proxies/digitisation/trascription summary` `metadigit/gen/video_group/digitisation/trascriptionsummary`
type	`xsd:string`
required	M
repeatable	No
attributes	
values	
components	Example: `lost frames per second`
notes	

name	`<data_unit>`
description	Unit of measurement
path	`metadigit/video/proxies/digitisation/trascription summary` `metadigit/gen/video_group/digitisation/trascriptionsummary`
type	`xsd:string`

required	O
repeatable	No
attributes	
values	
components	
notes	

name	`<data_value>`
description	Measured value
path	`metadigit/video/proxies/digitisation/trascriptionsummary` `metadigit/gen/video_group/digitisation/trascriptionsummary`
type	`xsd:float`
required	O
repeatable	No if it is inside <transcriptionsummary> , yes it is inside <transcriptiondata>
attributes	
values	Number values
components	
notes	

name	`<transcriptiondata>`
description	It records the data sequences measured during the digitalization process. It enables to define names, types and values of measured physical quantities, allowing their hierarchical nesting (for example: values for channel). It supports two alternative formats: 1. using the elements `<grouping>` and `<transcriptiondata>` it is possible to group data typologies;

	2. using the elements <data_description>, <data_unit>, <interval> and <data_value> the considered measures are defined.
path	metadigit/video/proxies/digitisation metadigit/video/proxies/digitisation/trascriptiondata/*/ metadigit/gen/video_group/digitisation metadigit/gen/video_group/digitisation/trascriptiondata/*/
type	xsd:sequence xsd:choice
required	O
repeatable	yes
attributes	
values	
components	(<grouping> , <transcriptiondata> optional) | (<data_description> , <data_unit> optional, <interval> , <data_value>)
notes	

name	<grouping>
description	Level tag
path	metadigit/video/proxies/digitisation/transcriptiondata metadigit/gen/video_group/digitisation/transcriptiondata
type	xsd:string
required	M
repeatable	No
attributes	
values	

components	
notes	

name	<data_description>
description	Considered data tag
path	metadigit/video/proxies/digitisation/transcriptiondata metadigit/gen/video_group/digitisation/transcriptiondata
type	xsd:string
required	M
repeatable	No
attributes	
values	
components	
notes	

name	<data_unit>
description	Unit of measurement
path	metadigit/video/proxies/digitisation/transcriptiondata metadigit/gen/video_group/digitisation/transcriptiondata
type	xsd:string
required	O
repeatable	No
attributes	

values	
components	
notes	

name	`<interval>`
description	Acquisition time range (start - stop time)
path	`metadigit/video/proxies/digitisation/transcriptiondata` `metadigit/gen/video_group/digitisation/transcriptiondata`
type	
required	O
repeatable	No
attributes	`start` (`xsd:time` mandatory) `stop` (`xsd:time` mandatory)
values	
components	
notes	

name	`<data_value>`
description	Measured value
path	`metadigit/video/proxies/digitisation/transcriptiondata` `metadigit/gen/video_group/digitisation/transcriptiondata`
type	`xsd:float`
required	O
repeatable	No if it is inside <transcriptionsummary> , yes if it is inside <transcriptiondata>

attributes	
values	Number values
components	
notes	

name	`<datetimecreated>`
description	Date and time of digitization
path	`metadigit/video/proxies`
type	`xsd:datetime`
required	O
repeatable	No
attributes	
values	
components	
notes	

name	`<notes>`
description	Any annotation about video file
path	`metadigit/video`
type	`xsd:string`
required	O
repeatable	No
attributes	
values	

components	
notes	

Section Dis

This section can be used for the OAIS/DIP phase in order to disseminate the digital objects; it collects informations about the availability of digital objects.

name	`<dis>`
description	It collects data about digital object availability
path	`metadigit`
type	`xsd:sequence`
required	O
repeatable	No
attributes	
values	
components	<dis_item>
notes	

name	`<dis_item>`
description	It contains a single object available for dissemination
path	`metadigit/dis`
type	`xsd:sequence`
required	O
repeatable	yes
attributes	
values	
components	<file> , (<preview> | <available>) optional

notes	

name	`<file>`
description	link to the multimedia file
path	`metadigit/dis/dis_item`
type	`link`
required	M
repeatable	No
attributes	`Location` (possible values for images: `URN`, `URL`, `PURL`, `HANDLE`, `DOI`, `OTHER`) `xlink:simpleLink` (values: `type`, `href`, `role`, `arcrole`, `title`, `show`, `actuate`) `xlink:type` mandatory, fixed value "`simple`" `xlink:href` optional, identifies a remote resource and must be a URI `xlink:role` optional, describes the role of the remote resource inside the link, must be a URI `xlink:arcrole` optional, describes the role of remote resource inside the range (local-remote) of the link, must be a URI `xlink:title` optional, describes the title or the topic of resource `xlink:show` optional, describes how the resource should be shown `xlink:actuate` optional, gives informations about when to show the resource
values	
components	
notes	see http://www.w3.org/TR/xlink/#simple-links

name	`<preview>`
description	It contains the preview of multimedia file available for dissemination
path	`metadigit/dis/dis_item`
type	`xsd:choice`, `xsd:enumeration`
required	MA

repeatable	No
attributes	
values	thumbnail sample
components	
notes	

name	<available>
description	contains the address (URI) where to find the access conditions of multimedia file available for dissemination
path	metadigit/dis/dis_item
type	xsd:choice, xsd:anyURI
required	MA
repeatable	No
attributes	
values	
components	
notes	